

Appl. No. : 10/797,985
Filed : March 9, 2004

BEST AVAILABLE COPY**AMENDMENTS TO THE CLAIMS****WHAT IS CLAIMED IS:**

1-46. (CANCELED)

47. (NEW) An apparatus on a vehicle for collecting pollutant particles liberated from a roadway, comprising:

an element comprising a material configured to retain roadway pollutant particles, that are 10 μ m or less, which are liberated from said roadway by a tire of said vehicle, wherein said element is affixed to said vehicle at a location that receives a spray of said liberated roadway pollutant particles.

48. (NEW) The apparatus of claim 47, wherein said element is attached to a portion of a wheel well of the vehicle.

49. (NEW) The apparatus of claim 47, wherein said material is magnetic.

50. (NEW) The apparatus of claim 47, wherein said material is configured to collect pollutants that are less than about 5 microns.

51. (NEW) The apparatus of claim 47, wherein said material is configured to collect pollutants that are less than about 2.5 microns.

52. (NEW) The apparatus of claim 47, wherein said material is configured to collect hydrocarbons and heavy metals.

53. (NEW) The apparatus of claim 47, wherein said material is configured to collect pollutants emitted from deteriorated brake pads.

54. (NEW) The apparatus of claim 47, wherein said material comprises a filter.

55. (NEW) The apparatus of claim 47, wherein said material comprises a pad.

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56. (NEW) The apparatus of claim 47, said element comprises one or more electrically charged plates.
57. (NEW) The apparatus of claim 47, wherein said material comprises a binding agent that binds a pollutant particle in said spray of pollutant particles to said material when said pollutant particles contact said element.
58. (NEW) The apparatus of claim 48, wherein said element is attached to a surface of said wheel well substantially between a surface of said wheel well and said rotating tire of said vehicle.
59. (NEW) The apparatus of claim 47, wherein said element is attached to a mud flap of said vehicle.
60. (NEW) The apparatus of claim 47, wherein said element is positioned behind a portion of the surface of a wheel well.
61. (NEW) The apparatus of claim 47, wherein said element is attached to the underside of said vehicle.
62. (NEW) The apparatus of claim 47, wherein said element is attached to a splash guard of said vehicle.
63. (NEW) The apparatus of claim 47, further comprising a frame configured to hold said element on said vehicle.
64. (NEW) The apparatus of claim 47, wherein said material is oleophilic.
65. (NEW) The apparatus of claim 47, wherein said material is porous.
66. (NEW) The apparatus of claim 47, wherein said material is hydrophobic.

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67. (NEW) A method for collecting pollutant particles liberated from a roadway surface, the method comprising:

positioning an element to receive a spray of roadway pollutant particles that are liberated from the roadway by a tire of a vehicle, wherein said element comprises a material configured to collect said pollutant particles that are 10 μ m or less;

contacting the roadway with a tire of the vehicle;

rotating the tire to liberate pollutant particles from the roadway;

receiving said pollutant particles on said material; and

collecting at least a portion of said pollutant particles on said material.

68. (NEW) The method of claim 67, wherein said element is attached to a portion of a wheel well of said vehicle.

69. (NEW) The method of claim 67, wherein said material is magnetic.

70. (NEW) The apparatus of claim 67, wherein said material is configured to collect pollutants that are less than about 5 microns.

71. (NEW) The apparatus of claim 67, wherein said material is configured to collect pollutants that are less than about 2.5 microns.

72. (NEW) The apparatus of claim 67, wherein said material is configured to collect pollutants comprising heavy metals.

73. (NEW) The apparatus of claim 67, wherein said material is configured to collect pollutants comprising hydrocarbons.

74. (NEW) The apparatus of claim 67, wherein said material comprises a filter.

75. (NEW) The apparatus of claim 67, wherein said material comprises a pad.

76. (NEW) The apparatus of claim 67, wherein said material comprises binding agents that bind a pollutant particle in said spray of pollutant particles to said material when said pollutant particles contact said material.

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77. (NEW) The apparatus of claim 67, wherein said element is attached to a surface of said wheel well substantially between a surface of said wheel well and said rotating tire of said vehicle.

78. (NEW) The apparatus of claim 67, wherein said element is attached to a mud flap of said vehicle.

79. (NEW) The apparatus of claim 67, wherein said element is positioned behind a portion of the surface of a wheel well.

80. (NEW) The apparatus of claim 67, wherein said element is attached to the underside of said vehicle.

81. (NEW) The apparatus of claim 67, wherein said element is attached to a splash guard of said vehicle.

82. (NEW) A system for collecting pollutant particles liberated from a roadway, comprising:

a vehicle comprising at least one tire; and

an element comprising a material configured to retain roadway pollutant particles, that are 10 μ m or less, which are liberated from said roadway by said tire of said vehicle wherein said element is affixed to said vehicle at a location that receives a spray of said liberated roadway pollutant particles.

83. (NEW) The system of claim 82, wherein said vehicle comprises a wheel well and said element is affixed to a portion of said wheel well.

84. (NEW) The system of claim 83, wherein said vehicle comprises an inlet on said wheel well, said inlet configured to allow the spray of said pollutant particles to flow through said inlet, and wherein said element is affixed to a location to receive said pollutant particles that flow through said inlet.

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SUMMARY OF INTERVIEW

Exhibits and/or Demonstrations

None

Identification of Claims Discussed

Proposed claims 47 and 67.

Identification of Prior Art Discussed

Discussed Wells (U.S. Patent No. 5,509,853) in depth, and briefly discussed Miller (U.S. Patent No. 6,743,281) and Wang et al. (U.S. Patent Publication No. US 2002/0139095).

Proposed Amendments

No amendments to pending claims. Discussed proposed claims 47 -67

Principal Arguments and Other Matters

The Office Action rejected the pending claims under 35 U.S.C. 102(b) as anticipated by Wells. Applicant discussed the details of the subject matter disclosed in Wells and how it differed from the present application. In particular, Applicant discussed that Wells taught a method and device for "purifying the atmosphere" (col. 8, 41-42) but Wells does not teach a method or apparatus for collecting pollutant particles liberated from a roadway surface by the contact of a rotating tire and the roadway. Also, Applicant briefly discussed that Miller discloses a mechanical air filtration indicator for indicating when a filter needs to be replaced (col. 1, 34-37) and Wang discloses oleophobic and hydrophobic filters (Abstract) but Miller and Wang do not disclose or teach.

Results of Interview

It was concluded that the proposed apparatus and method claims, independent claims 47 and 67 respectively, which require collecting pollutant particles liberated from the roadway by the contact of a rotating tire and the roadway, are not disclosed or suggested by Wells, and/or Miller and/or Wang, but that the Examiner would conduct a further art search based on the limitations of the proposed claims.